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EXAMINER	
VESTAL, REBECCA MICHELLE	

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 03/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/674,695	PIERCE ET AL.	
	Examiner	Art Unit	
	R. Michelle Vestal	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

GB

DETAILED ACTION

Drawings

Examiner has withdrawn the previous objection under 37 CFR 1.83(a) to the drawings. A trigger electrode, a three-electrode structure, a layer of mesh and a capillary space are all common features in electrochemical sensors and a person of ordinary skill in the art would understand and appreciate the existence of such components in the instantly claimed invention.

The amended drawings were received on December 13, 2004. These drawings are not acceptable. Reasons for objection to their admission are given in the "Response to Amendment" section of this office action.

Claim Rejections - 35 USC § 112

Claims 5 and 20 remain rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The reason for rejection is cited in the first office action. Applicant acknowledges this rejection on page 14 in the response

received December 13, 2004, but has taken no corrective action nor made any arguments against said rejection. Consequently, the rejection is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 5,795,453 to Gilmartin. Gilmartin is being cited and relied upon for the first time with this office action. Its use here was necessitated by the applicant's amendment to the claims.

Regarding Claim 1, Gilmartin discloses a biosensor (Col. 1, lines 6-10, 30-36 and Col. 1, line 63-Col. 2, line 3) having:

(a) an electrode support (Col. 2, lines 65-67 and Fig. 1, **D**);

(b) an arrangement of electrodes disposed on the electrode support, the arrangement of electrodes comprising at least a working electrode and at least a second electrode (Col. 2, lines 64-65, Col. 5, lines 47-50 and Fig. 1, **C**);

(c) a first conductive track leading from the working electrode to an electrical contact associated with the working electrode (Fig. 1, **A**) and a second conductive track leading from the second electrode to an electrical contact associated with the at least second electrode (Fig. 1, **A**). Component "A" in Figure 1 of Gilmartin refers to a "connecting strip," which is inserted into a spade connector to a potentiostat during operation (Col. 2, lines 61-62) to establish electrical connection to the electrodes. This connecting strip is interpreted as being a conductive track leading from the electrode and the end opposite the working area C constitutes the electrical contact to a potentiostat; and

(d) at least one reagent incorporated in at least one of the first conductive track leading from the working electrode to the electrical contact associated with the working electrode or the electrical contact associated with the working electrode (Col. 2, lines 4-12, Col 14, lines 16-35, Figs. 1 and 2). Figure 1 of Gilmartin shows an electrode assembly comprising a working area C of the electrode and a connecting strip A, which has been interpreted as a "conductive track" and an "electrical contact," as discussed previously. The shading of these components appears to indicate that the working area C and connecting strip A are made of the same material. Figure 2 shows the composition of the ink used to print the electrode assembly (the working area and the connecting strip), which includes a

mediator. Accordingly, the reagent (mediator) has been interpreted as being incorporated in the conductive track leading from the working electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode.

Regarding Claim 2, Gilmartin discloses a biosensor wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme (Col. 2, lines 4-12, Col. 8, lines 18-30 and Col. 10, lines 49-52).

Addressing Claim 3, Gilmartin discloses a biosensor wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands (Col. 8, line 18-Col. 9, line 40).

Regarding Claim 4, Gilmartin discloses a biosensor wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases (Col. 10, lines 10-27 and lines 49-57).

Regarding Claim 5, Gilmartin discloses a biosensor further including at least one reagent-containing layer overlying the working electrode (Col. 9, lines 42-46).

Regarding Claim 8, Gilmartin discloses a biosensor wherein the working electrode has an area of from 0.5 mm^2 to 5 mm^2 (Col. 14, lines 44-47).

Addressing Claim 10, Gilmartin discloses a biosensor wherein the electrode arrangement further comprises a third electrode (Col. 16, lines 4-6).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman in view of Gilmartin.

Regarding Claim 1, Feldman discloses a biosensor (Col. 1, lines 13-14) having:

(a) an electrode support (Col. 26, lines 25-26 and Fig. 2, **38**);

(b) an arrangement of electrodes disposed on the electrode support, the arrangement of electrodes comprising at least a working electrode and at least a second electrode (Col. 26, lines 22-23 and Fig. 2, **22** and **24**);

(c) a first conductive track leading from the working electrode to an electrical contact associated with the working electrode and a second conductive track leading from the second electrode to an electrical contact associated with the at least second electrode (Fig. **2**, **22** and **24**); and

(d) at least one reagent incorporated in the working electrode (Col. 21, lines 28-31).

Feldman does not disclose expressly that the biosensor has at least one reagent incorporated in at least one of the first conductive track leading from the working electrode to the electrical contact associated with the working electrode or the electrical contact associated with the working electrode.

Gilmartin discloses a biosensor (Col. 1, lines 6-10, 30-36 and Col. 1, line 63-Col. 2, line 3) having at least one reagent incorporated throughout the working area of the electrode, the first conductive track leading from the working area of the electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode (Col. 2, lines 4-12, Col 14, lines 16-35, Figs. 1 and 2, and the rejection above), thereby requiring only a single ink deposition step (Col. 20, lines 15-20).

Feldman and Gilmartin are analogous art because they are from the same field of endeavor, that is electrochemical biosensors.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have at least one reagent incorporated in the working area of the working electrode, the first conductive track leading from the working electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode of Gilmartin in the biosensor of Feldman because such an electrode assembly permits low voltage measurements of analytes which reduces noise, increases selectivity and increases the signal to noise ratio and obviates the need for multistep electrode and conductive track deposition, thereby simplifying the sensor construction, as taught by Gilmartin (Col. 2, lines 16-18, Col. 13, lines 45-60 and Col. 20, lines 15-20). Gilmartin also teaches that the electrodes and electrode

assemblies can be easily mass-produced and provide a universal platform on which assays can be performed (Col. 13, lines 47-53).

Therefore, it would have been obvious to combine Feldman with Gilmartin to obtain the invention as specified in claim 1.

Regarding Claim 2, Feldman discloses a biosensor wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme (Col. 21, lines 28-31).

Addressing Claim 3, Feldman discloses a biosensor wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands (Col. 15, lines 20-25).

Regarding Claim 4, Feldman discloses a biosensor wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases (Col. 24, lines 21-27).

Regarding Claim 5, Feldman discloses a biosensor further including at least one reagent-containing layer overlying the working electrode (Col. 8, lines 53-55 and Fig. 2, 32).

Regarding Claim 6, Feldman discloses a biosensor requiring a low volume of sample to trigger an electrochemical reaction (Col. 7, lines 52-55).

Addressing Claim 7, Feldman discloses a biosensor wherein spacing between the working electrode and the at least second electrode does not exceed 200 micrometers (Col. 24, lines 66-67 and Col. 25, lines 1-3).

Regarding Claim 8, Feldman discloses a biosensor wherein the working electrode has an area of from 0.5 mm^2 to 5 mm^2 (Col. 49, lines 7-8).

Regarding Claim 9, Feldman discloses a biosensor wherein the electrode arrangement further comprises a trigger electrode (Col. 50, lines 60-61 and Col. 51, lines 1-12).

Applicant discloses that a trigger electrode can be used to determine when the sample has been applied to the strip, thereby activating the assay protocol (Page 10, lines 19-21). The trigger electrode prevents the assay from beginning until an adequate quantity of sample has filled the reaction zone (Page 10, lines 22-24).

Feldman discloses a sensor including a fill indicator, such as an indicator electrode, that can be used to determine when the measurement zone or sample chamber has been filled (Col. 2, lines 64-67). An indicator electrode is defined as one or more electrodes that detect partial or complete filling of a sample chamber and/or

measurement zone (Col. 7, lines 3-5). Therefore, Feldman's indicator electrode is interpreted to be synonymous with trigger electrode.

Addressing Claim 10, Feldman discloses a biosensor wherein the electrode arrangement further comprises a third electrode (Col. 49, lines 19-21).

Regarding Claim 11, Feldman discloses a biosensor wherein the electrode arrangement further comprises a fourth electrode, said fourth electrode having the function of a trigger electrode (Col. 51, lines 37-45).

Regarding Claim 12, Feldman discloses a biosensor further comprising an insulating layer overlying said electrode arrangement and said conductive tracks (Col. 8, lines 23-29 and Fig. 4, 40).

Regarding Claim 13, Feldman discloses a biosensor wherein a layer of mesh is interposed between the electrode arrangement and the insulating layer (Col. 29, lines 47-54).

Regarding Claim 14, Feldman discloses a biosensor wherein a capillary is interposed between the electrode arrangement and the insulating layer (Col. 26, lines 58-67 or Fig. 5, 26).

Regarding Claim 15, Feldman discloses a biosensor further comprising a layer of tape overlying said electrode arrangement and said conductive tracks (Fig. 2, 30).

Regarding Claim 16, Feldman discloses a biosensor (Col. 1, lines 13-14) having:

(a) a first substrate having two major surfaces (Fig. 1, 38 or Fig. 3, 38);

(b) a second substrate having two major surfaces (Fig. 1, 38 or Fig. 3, 38);

(c) a working electrode disposed on one major surface of the first substrate (Col. 3, lines 18-19, Fig. 1, 22 or Fig. 3, 22);

(d) at least a second electrode disposed on one major surface of the second substrate (Col. 3, lines 19-20, Fig. 1, 24 or Fig. 3, 24);

(e) a first conductive track leading from the working electrode to an electrical contact associated with the working electrode and a second conductive track leading from the second electrode to an electrical contact associated with the at least second electrode (Fig. 1, 22 and 24 or Fig. 3, 22 and 24);

(f) at least one reagent incorporated in the working electrode (Col. 21, lines 28-31).

(g) an insulating layer disposed between said working electrode and said at least second electrode (Col. 8, line 3-29, Fig. 1, 28 or Fig. 3, 28); and

(h) the major surface bearing the working electrode facing the major surface bearing the at least second electrode (Col. 2, lines 5-6, Fig. 1 or Fig. 3).

Feldman does not disclose expressly that the biosensor has at least one reagent incorporated in at least one of the first conductive track leading from the working electrode to the electrical contact associated with the working electrode or the electrical contact associated with the working electrode.

Gilmartin discloses a biosensor (Col. 1, lines 6-10, 30-36 and Col. 1, line 63-Col. 2, line 3) having at least one reagent incorporated throughout the working area of the electrode, the first conductive track leading from the working area of the electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode (Col. 2, lines 4-12, Col 14, lines 16-35, Figs. 1 and 2, and the rejection above), thereby requiring only a single ink deposition step (Col. 20, lines 15-20).

Feldman and Gilmartin are analogous art because they are from the same field of endeavor, that is electrochemical biosensors.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have at least one reagent incorporated in the working area of the working electrode, the first conductive track leading from the working electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode of Gilmartin in the biosensor of Feldman because such an electrode assembly permits low voltage measurements of analytes which

reduces noise, increases selectivity and increases the signal to noise ratio and obviates the need for multistep electrode and conductive track deposition, thereby simplifying the sensor construction, as taught by Gilmartin (Col. 2, lines 16-18, Col. 13, lines 45-60 and Col. 20, lines 15-20). Gilmartin also teaches that the electrodes and electrode assemblies can be easily mass-produced and provide a universal platform on which assays can be performed (Col. 13, lines 47-53).

Therefore, it would have been obvious to combine Feldman with Gilmartin to obtain the invention as specified in claim 16.

Regarding Claim 17, Feldman discloses a biosensor wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme (Col. 21, lines 28-31).

Regarding Claim 18, Feldman discloses a biosensor wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands (Col. 15, lines 20-25).

Regarding Claim 19, Feldman discloses a biosensor wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases (Col. 24, lines 21-27).

Regarding Claim 20, Feldman discloses a biosensor further including at least one reagent-containing layer overlying the working electrode (Col. 8, lines 53-55 and Fig. 2, 32).

Regarding Claim 21, Feldman discloses a biosensor requiring a low volume of sample to trigger an electrochemical reaction (Col. 7, lines 52-55).

Regarding Claim 22, Feldman discloses a biosensor wherein spacing between the working electrode and the at least second electrode does not exceed 200 micrometers (Col. 24, lines 66-67 and Col. 25, lines 1-3).

Regarding Claim 23, Feldman discloses a biosensor wherein the working electrode has an area of from 0.5 mm^2 to 5 mm^2 (Col. 49, lines 7-8).

Regarding Claim 24, Feldman discloses a biosensor wherein the electrode arrangement further comprises a trigger electrode (Col. 50, lines 60-61 and Col. 51, lines 1-12).

Regarding Claim 25, Feldman discloses a biosensor wherein the electrode arrangement further comprises a third electrode (Col. 49, lines 19-21).

Regarding Claim 26, Feldman discloses a biosensor wherein the electrode arrangement further comprises a fourth electrode, said fourth electrode having the function of a trigger electrode (Col. 51, lines 37-45).

Regarding Claim 27, Feldman discloses a biosensor wherein a layer of mesh is interposed between the electrode arrangement and the insulating layer (Col. 29, lines 47-54 or Fig. 1, 34).

Regarding Claim 28, Feldman discloses a biosensor wherein a capillary is interposed between the electrode arrangement and the insulating layer (Col. 26, lines 58-67 or Fig. 5, 26).

Claims 1-4, 10, 12, 13 and 15 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent No. 6,129,823 to Hughes et al., referred to hereafter as "Hughes."

Regarding Claim 1, Hughes discloses a biosensor (Col. 1, lines 5-6) having:

(a) an electrode support (Col. 2, line 10 and Fig. 1, **1**);

(b) an arrangement of electrodes disposed on the electrode support, the arrangement of electrodes comprising at least a working electrode and at least a second electrode (Col. 2, lines 11-12 and Fig. 1, **4**, **5** and **5a**);

(c) a first conductive track leading from the working electrode to an electrical contact associated with the working electrode and a second conductive track leading from the second electrode to an electrical contact associated with the at least second electrode (Fig. 1, **2**); and

(d) at least one reagent incorporated in the working electrode (Col. 4, lines 28-29).

Hughes does not disclose expressly that the biosensor has at least one reagent incorporated in at least one of the first conductive track leading from the working electrode to the electrical contact associated with the working electrode or the electrical contact associated with the working electrode.

Gilmartin discloses a biosensor (Col. 1, lines 6-10, 30-36 and Col. 1, line 63-Col. 2, line 3) having at least one reagent incorporated throughout the working area of the electrode, the first conductive track leading from the working area of the electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode (Col. 2, lines 4-12, Col 14, lines 16-35, Figs. 1 and 2, and the rejection above), thereby requiring only a single ink deposition step (Col. 20, lines 15-20).

Hughes and Gilmartin are analogous art because they are from the same field of endeavor, that is electrochemical biosensors.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have at least one reagent incorporated in the working area of the working electrode, the first conductive track leading from the working electrode to the electrical contact associated with the working electrode and the electrical contact associated with the working electrode of Gilmartin in the biosensor of Hughes because such an electrode assembly permits low voltage measurements of analytes which reduces noise, increases selectivity and increases the signal to noise ratio and obviates the need for multistep electrode and conductive track deposition, thereby simplifying the sensor construction, as taught by Gilmartin (Col. 2, lines 16-18, Col. 13, lines 45-60 and Col. 20, lines 15-20). Gilmartin also teaches that the electrodes and electrode assemblies can be easily mass-produced and provide a universal platform on which assays can be performed (Col. 13, lines 47-53).

Therefore, it would have been obvious to combine Hughes with Gilmartin to obtain the invention as specified in claim 1.

Regarding Claim 2, Hughes discloses a biosensor wherein the at least one reagent comprises at least one enzyme or at least one mediator or at least one co-enzyme or at least two of the enzyme, the mediator, or the co-enzyme (Col. 4, lines 28-29).

Addressing Claim 3, Hughes discloses a biosensor wherein the mediator is selected from the group consisting of organometallic compounds, organic compounds, and coordination compounds with inorganic or organic ligands (Col. 4, lines 44-45).

Regarding Claim 4, Hughes discloses a biosensor wherein the enzyme is selected from the group consisting of oxidases and dehydrogenases (Col. 4, lines 43-44).

Addressing Claim 10, Hughes discloses a biosensor wherein the electrode arrangement further comprises a third electrode (Col. 4, lines 20-23).

Regarding Claim 12, Hughes discloses a biosensor further comprising an insulating layer overlying said electrode arrangement and said conductive tracks (Col. 5, lines 25-26 and Fig. 1, 11).

Regarding Claim 13, Hughes discloses a biosensor wherein a layer of mesh is interposed between the electrode arrangement and the insulating layer (Col. 4, lines 53-54 and Fig. 1, 10).

Regarding Claim 15, Hughes discloses a biosensor further comprising a layer of tape overlying said electrode arrangement and said conductive tracks (Col. 5, lines 36-37 and Fig. 1, 13).

Response to Amendment

The amendment filed December 13, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The elaborate electrode configuration in Figure 7 is not disclosed in the specification. There is no support for the specific positioning of the working, reference, counter and trigger electrodes as depicted in Figure 7. As such, the embodiment shown in Figure 7 constitutes new matter and may not be entered.

Applicant is required to cancel the new matter in the reply to this Office Action.

The placement of the layer of mesh 40' in new Figure 8 is not supported by claim 27. Claim 27 limits the layer of mesh to be interposed between the working electrode and the insulating layer. The layer of mesh in Figure 8 is interposed between the reference/counter electrode and the insulating layer.

As mentioned previously in this office action, Examiner has withdrawn the objection to the original drawings. Therefore, Examiner suggests that the amended drawings and the references to these drawings in the amended specification not be entered in order to avoid the addition of new matter into the disclosure.

If, however, the applicant wishes to enter amended drawings, the addition of Figures 2A and 2B are acceptable and the addition of Figure 8 would be acceptable upon amending the placement of the layer of mesh 40' between the working electrode 20' and the insulating layer.

Response to Arguments

Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground of rejection.

Applicant's arguments, see the last three lines of page 14 through page 16, filed December 9, 2004, with respect to the rejection of claims 1-28 under 35 U.S.C. § 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of U.S. Patent Number 5,795,453 to Gilmartin, cited above.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. Michelle Vestal whose telephone number is (571) 272-0524. The examiner can normally be reached on Monday-Friday, 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rmv /RMV
February 24, 2005

3/1/05

KAJ K. OLSEN
PRIMARY EXAMINER